

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method, for virtually concatenating optical channels in WDM networks, comprising:

providing for a plurality of frames, each frame comprising a byte reserved for a concatenation flag;

writing ~~the-a~~ same value defined in advance into the n-frame (n=1,2,3,...) concatenation byte; and

transmitting the n frames through n respective channels.

2. (currently amended): A method, for receiving a number n of virtually concatenated signal frames in WDM networks, comprising:

receiving a first reference frame at an instant t_0 ;

reading ~~the-a~~ concatenation byte value of such reference frame;

receiving the remaining n-1 signal frames after a respective determined time t;

reading the concatenation byte value of the remaining n-1 signal frames; and

identifying and aligning all the signal frames with the same concatenation byte value compensating for the receiving time t.

3. (previously presented): A method according to claim 2, wherein the aligning of all the signal frames with the same concatenation byte value comprises:

receiving the remaining n-1 signal frames at corresponding instants t_1 ;

calculating, for each of the remaining n-1 frames, the time t elapsed from the instant at which the reference frame has been received;

providing, for every channel, an elastic store; and

holding steady the elastic storage of the reference channel and moving the others in dependence of the calculated times t.

4. (currently amended): A method according to claim 2, wherein the receiving of the remaining n-1 signal frames comprises:

reading the-a frame alignment word of the reference frame at a first instant t_0 ;

reading the frame alignment word of the remaining n-1 frames at corresponding second instants t_1 ; and

calculating the time differences t between the first instant t_0 and the corresponding second instants t_1 .

5. (currently amended): A method according to claim 2, further comprising:

| calculating ~~the~~a possible differences between the concatenation byte value of the reference frame and the concatenation byte value of the remaining n-1 frames,
| multiplying said possible differences by the frame period T, and
| adding the value obtained to the respective time differences t.

6. (currently amended): An apparatus for virtually concatenating optical channels in WDM networks, the apparatus comprising:

| a first circuit for writing ~~the~~a same predetermined value into ~~the~~a concatenation byte of n-signal frames (n=1,2,3,...) : and
| a transmitter of the n frames through n respective channels.

7. (currently amended): An apparatus for receiving a number n of signal frames virtually concatenated in WDM networks, the apparatus comprising:

| a first receiver of a first reference frame at an instant t_0 ;
| a first circuit for reading ~~the~~a concatenation byte value of such reference frame;
| a second receiver of the remaining n-1 signal frames after a respective determined time t;
| a second circuit for reading the concatenation byte value of the remaining n-1 frames; and
| a circuit for identifying and aligning all the signal frames with the same concatenation byte value compensating for the receiving times t.

8. (original): A WDM network comprising circuits for the implementation of the method for virtually concatenating optical channels of claim 1.

9. (original): A WDM network comprising circuits for the implementation of the method for receiving a number n of virtually concatenated signal frames of claim 2.

10. (currently amended): A WDM network comprising:

an apparatus for virtually concatenating optical channels, as in claim 6
the apparatus comprising:

a first circuit for writing a same predetermined value into a concatenation byte of n-signal frames (n=1,2,3,...) : and

a transmitter of the n frames through n respective channels.

11. (currently amended): A WDM network comprising:

an apparatus for receiving a number n of virtually concatenated signal frames, the apparatus comprising:

a first receiver of a first reference frame at an instant t₀;

a first circuit for reading a concatenation byte value of such reference frame;

a second receiver of the remaining n-1 signal frames after a respective determined time t;

a second circuit for reading the concatenation byte value of the remaining n-1 frames; and

a circuit for identifying and aligning all the signal frames with the same concatenation byte value compensating for the receiving times t.
~~-as in claim 7.~~

12. (new): The method for virtually concatenating optical channels in WDM networks, according to claim 1, wherein the byte reserved for a concatenation flag is not fixed.

13. (new): The method for virtually concatenating optical channels in WDM networks, according to claim 1, further comprising:

receiving the n frames,

wherein each frame is received on a same channel number assigned at the transmission side.